

Appl. No. 09/775,881  
Amdt. dated October 17, 2005  
Reply to Office Action of September 20, 2005

PATENT

**REMARKS/ARGUMENTS**

This Amendment is responsive to the Office Action mailed on June 20, 2005.

In this Amendment, claims 1 and 2 are amended, claims 7-12 and 19-20 are canceled, and claims 21-25 are added. Claims 1-6, 13-18, and 21-25 are pending.

I. Chang

In the Office Action, claims 1, 2, 5, 6, 13, 14, 17, and 18-20 are rejected as obvious over Chang (US Patent No. 5,694,290). This rejection is traversed.

A. Independent claim 1

Although Chang does not teach a heat sink, the Examiner alleges that the incorporation of a heat sink in Chang's structure would have been obvious. In the Office Action, the Examiner cites the following in support of the rejection: "The decision of the BPAI includes the following statement that 'it would have been obvious to one of ordinary skill in the art that the ventilating slots [62] could be substituted for a finned heat sink material, or that heat dissipation can be improved by adding fins to the cover 60 of Chan made from a heat absorbing material' (see Page 5- Page 6)".

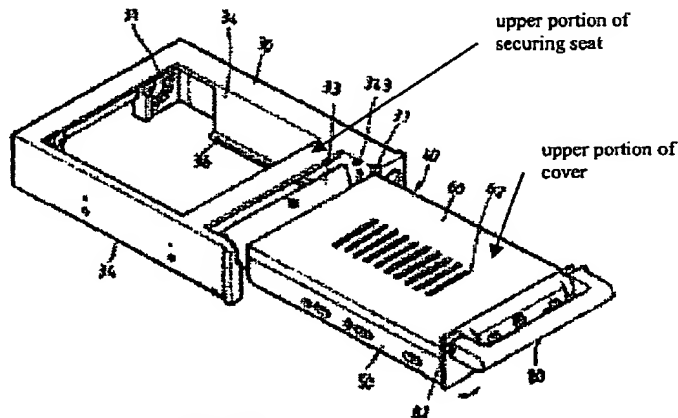
Claim 1 and dependents thereon are not obvious over Chang, because the modification proposed by the Examiner would make Chang less desirable for its stated purpose. As stated by MPEP 2143.01 and the Court of Appeals for the Federal Circuit, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Contrary to the Examiner's position, "substituting" a finned heat sink material for the ventilating slots in Chang or putting a heat sink over Chang's ventilation slots would make Chang unsatisfactory for its intended purpose. One of the "objects" of Chang is to facilitate "internal air circulation" (c. 1, l. 7-12; and c. 2, l. 20). The ventilating slots in Chang are *required* to produce the air circulation desired by Chang (c. 4, l.

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19-22). One would not have substituted a solid heat sink for Chang's ventilation slots, or placed a heat sink over Chang's ventilation slots, because doing so would prevent air from passing through Chang's cover 60. The proposed modification would decrease air circulation in Chang, and would be directly contrary to Chang's explicit purpose. Put another way, the proposed modification would make Chang function less efficiently than Chang's actual embodiments. In addition, since there are ventilation slots 62 in Chang's cover 60, there must necessarily be an air gap between his cover 60 and the hard drive under the cover 60. If one were to put a heat sink directly on the cover 60, this would not only impede the air flow out of the cover 60, but would also provide minimal heat transfer benefit since an air gap would be present between the substituted heat sink and the hard drive. Accordingly, there is no motivation to modify Chang in the manner proposed by the Examiner to arrive at claim 1.

Chang also does not render claim 1 or any claims dependent thereon obvious, because Chang fails to teach or suggest a device including a heat sink and carrier that "are configured to slide together into the memory storage device housing". In fact, Chang "teaches away" from this feature. As shown in FIG. 8 of Chang below, a box body 40 including a hard disk drive is removable from a securing seat 30.



**FIG. 8**

There is virtually no space between the cover 60 of the box body 40 and the upper portion of the securing seat 30, and there is no space for an additional heat sink. Accordingly, it would not have been obvious to modify Chang's device so that there is a heat sink on or integrated with the

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cover 60, since doing so would not allow the box body 40 to fit into the securing seat 30. Clearly, the configuration in Chang would not allow for a heat sink that has "fins" (e.g., claim 2) to slide into the security seat 30, because there would be no room for a heat sink of this type.

For at least the above reasons, Applicant submits that claim 1 and any dependents thereon are not obvious in view of Chang.

B. Independent claim 13

Chang does not render independent claim 13 obvious, since each and every limitation of claim 13 is not taught or suggested by Chang. To establish *prima facie* obviousness, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Independent claim 13 recites "a heat sink slidably mounted on the carrier". Although claim 13 is rejected as "obvious" by the Examiner, the Examiner does not indicate where Chang teaches or suggests a heat sink that is "slidably" mounted on a carrier.

The BPAI decision states that Wyler (U.S. Patent No. 5,510,954) and Ende (U.S. Patent No. 4,642,715) teach heat sinks. However, the heat sinks in Wyler and Ende are clearly not "slidably" mounted on a carrier. For example, FIG. 2 of Ende shows fins 104 of a heat sink. However, in Ende, the structure which has the fins 104 is attached to an alleged carrier with screws (c. 4, l. 49) and is not "slidably" mounted on a carrier.

Wyler also fails to teach or suggest a slidable heat sink on a carrier. The only heat sink 42 shown in Wyler is the heat sink 42 in FIG. 2. FIG. 2 shows that the heat sink 42 is part of a housing 54. Wyler does not indicate that the heat sink 42 is "slidable".

Should the Examiner maintain the rejection of independent claim 13, Applicant requests that the Examiner indicate where, by column and line number, a heat sink that is "slidably" mounted on a carrier can be found in Chang, Wyler, or Ende.

C. Independent claim 23

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Independent claim 23 recites a device comprising, *inter alia*, "a heat sink mounted on the carrier, wherein the heat sink comprises a plurality of fins and an enclosed air conduit, wherein the air conduit runs parallel to the plurality of fins". An example of this structure is shown in Fig. 4. Clearly, neither Chang, Wyler, Ende nor Lin teach or suggest the type of heat sink in claim 23. Accordingly, claim 23 and claims that are dependent thereon are not obvious.

## II. Chang and Lin

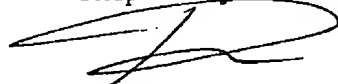
Claims 3, 4, 15, and 16 are rejected as being obvious over Chang in view of Lin '036 (U.S. Patent No. 5,514,036). This rejection is traversed.

Applicant submits that the additional citation of Lin does not remedy the deficiencies of Chang.

### CONCLUSION

Applicant believes that all claims now pending in this Application are in condition for allowance. If the Examiner believes a telephone conference would expedite the prosecution, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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